



CASE PP/1-22765/A/CGC 2127

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE APPLICATION OF
NIKOLAS KAPRINIDIS ET AL
APPLICATION NO: 10/675,157
FILED: September 30, 2003
FOR: FLAME RETARDANT COMPOSITIONS

Group Art Unit: 1714
Examiner: Peter A. Szekely
Confirmation No. 9514

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

DECLARATION UNDER RULE 132

Nikolas Kaprinidis, the undersigned, states:

That I received a Ph.D. in Chemistry from New York University, 1994;

That I have been employed by Ciba Specialty Chemicals Corporation since 1996;

That I have approximately 15 years of chemical research and development experience; that from 1996 to date I have worked in the Research and Development laboratories of Ciba Specialty Chemicals Corporation;

That the following experiments were performed by me or under my supervision.

Additives are dry mixed and extruded with polypropylene homopolymer resin with a twin screw (27 mm) extruder at 200°C under nitrogen. Weight percents of additives are based on the polymer.

From the pellets, 1.6 mm plaques are prepared by injection molding. The plaques are tested according to UL 94 protocol after 48 hours conditioning at 25°C and 50% humidity.

Plaques contain 1% by weight of the reaction product of 2,4-bis[(1-cyclohexyloxy-2,2,6,6-tetramethylpiperidin-4-yl)butylamino]-6-chloro-s-triazine with N,N'-bis(3-aminopropyl)ethylenediamine), and 14% by weight of the flame retardant tris[3-bromo-2,2-bis(bromomethyl)propyl] phosphate.

The plaques contain different weight levels of hydrotalcite, a present acid scavenger.

The following plaques are tested (weight based on polypropylene):

- 1) 0.6% hydrotalcite
- 2) 1.8% hydrotalcite
- 3) 3% hydrotalcite
- 4) 6% hydrotalcite

Flame resistance is tested according to UL-94. Ratings are as below.

Rating	Afterflame time	Burning drips	Burn to Clamp
V-0	< 10 s	no	no
V-1	< 30 s	no	no
V-2	< 30 s	yes	no
Fail	< 30 s		yes
Fail	> 30 s		no

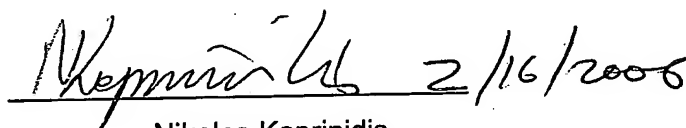
Results are as follows:

Formulation	UL-94 rating
1)	V0
2)	V2
3)	V2
4)	no rating (fail)

The formulation containing a present cyclohexyloxy-substituted hindered amine, tris[3-bromo-2,2-bis(bromomethyl)propyl] phosphate and a low level of hydrotalcite meets the stringent V0 UL-94 test. As the level of hydrotalcite is increased, the UL-94 rating decreases. The exceptional performance of a present formulation containing a low level of hydrotalcite is surprising.

These results are surprising and could not have been expected based on the prior art.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. § 1001, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.


Nikolas Kaprinidis